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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/579,624

09/29/2006

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EXAMINER

SMITH, COURTNEY L

ART UNIT

PAPER NUMBER

2835

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/579,624	Applicant(s) MORELLE ET AL.	
	Examiner COURTNEY L. SMITH	Art Unit 2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 May 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/25/2006</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the plurality of heat sinks asserted in claim 11 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-13**, are rejected under 35 U.S.C. 102(e) as being anticipated by **(Elpedes 7,170,151)**.

Regarding Claims 1, Elpedes discloses a device (**Fig. 1A**) for cooling an exothermic electrical component (**118**) of the type comprising a metal member (**102**) forming a radiator thermally coupled to a metal mass (**108**) of the component forming a heat dissipating mass of the component, wherein the radiator is thermally coupled to the dissipating mass by at least one heat sink formed by an autogenous weld (**wherein Col. 2 , lines 41-45; wherein 104 is solder wettable, and thus a heat sink is formed**) between one face (**surface of 109 which abuts 104**) of the dissipating mass called the dissipating face and one face (**surface of 104 which abuts 109**) of the radiator opposite each other and thereby fixing .

Regarding Claim 2, Elpedes discloses a device (**Fig. 1A**) as claimed in claim 1, in

which at least one element among the dissipating mass and the radiator is made from copper (**Col.2, lines 23-28**).

Regarding Claim 3, Elpedes discloses a device (**Fig. 1A**) as claimed in claim 1, in which the component comprises at least one heat source (**110**) and in which the heat sink is aligned (**Col. 2, lines 60-64**) with this source substantially parallel to a direction perpendicular to the dissipating face.

Regarding Claim 4, Elpedes discloses a device (**Fig. 1A**) as claimed in claim 3, in which the heat source comprises a semiconductor (**zener diodes--Col. 2, lines 18-21**).

Regarding Claim 5, Elpedes discloses a device (**Fig. 2**) as claimed claim 1, in which the area of the dissipating face included in the heat sink corresponds to at least 5% of the area of the dissipating face (**as depicted in Fig. 2—solder 124 covers an entire dissipating face , and thus at least 5% of the area is covered**).

Regarding Claim 6, Elpedes discloses a device (**Fig. 1A**) as claimed in claim 1, in which the sink also forms a means (**Col. 2, lines 9-10--wherein 101 is mounted via 108, and 108 is soldered to 104**) fixing the component to the radiator (**further disclosed by Col. 2, lines 23-30**).

Regarding Claim 7, Elpedes discloses a device (**Fig. 1A**) as claimed in 1, in which the

sink also forms a means **(via 116--Col. 3, lines 1-9)** of electrical conduction between the component and the radiator.

Regarding Claim 8, Elpedes discloses a device **(Fig. 1A)** as claimed in any Claim 1, in which the radiator has a plate shape **(as depicted in Fig. 1A)** and is provided with one large face opposite the dissipating mass and one large face opposite to the preceding face, bearing on a support **(120)**.

Regarding Claim 9, Elpedes discloses a device **(Fig. 1A)** as claimed in claim 8, in which the support is made from a material transparent to a wavelength of a laser welding head **(Col. 3, lines 10-12)**.

Regarding Claim 10, Elpedes discloses a device **(Fig. 1A)** as claimed in 8, in which the radiator is provided with two small opposed faces connected by overmolding of material preferably of plastic, to two substantially parallel electrically conducting bars **(whereby 102 is connected by plastic molding 112 to conducting bars 116 as depicted in Fig. 2, and further disclosed by Col. 3, lines 2-6)**.

Regarding Claim 10, Elpedes discloses a device **(Fig. 1A)** as claimed in claim1, comprising a plurality of heat sinks **(as disclosed by Col. 1, lines 32-48; wherein a plurality of solder wettable surfaces are set forth)**.

Regarding Claims 12-15, the method steps are necessitated by the structure as disclosed by Elpedes.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 14-15**, are rejected under 35 U.S.C. 103(a) as being unpatentable over **(Elpedes 7,170,151)** as applied to claims 12 above, in view of **(Barnett 6,903,380)**.

Regarding Claims 14-15, the method steps are necessitated by the structure as disclosed by Elpedes, **except** explicitly disclosing the support is made from a material transparent to a wavelength of a laser welding head, in which the autogenous beam welding is carried out through the support. However, **Barnet** discloses a support **(27)** is made from a material transparent to a wavelength of a laser welding head, in which the autogenous beam welding is carried out through the support **(as disclosed in Col. 7, lines 57-65)**. It would have been obvious to one having ordinary skill in the art at the time that the invention was made to provide the device of Elpedes with the wavelength transparent material of Barnett in order to allow for a more improved heat sink assembly without overheating the electrical component.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COURTNEY L. SMITH whose telephone number is (571)272-9094. The examiner can normally be reached on Monday-Friday 7:30a-5p (1st Fri. off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Gandhi can be reached on 571-272-3740. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/C. L. S./

/Boris L. Chervinsky/

Primary Examiner, Art Unit 2835